



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/625,551	07/24/2003	Jeffrey Brown	87326.3940	7683

7590 02/14/2005

BAKER & HOSTETLER LLP  
Suite 1100  
Washington Square  
1050 Connecticut Avenue, N.W.  
WASHINGTON, DC 20036

EXAMINER

WAMSLEY, PATRICK G

ART UNIT PAPER NUMBER

2819

DATE MAILED: 02/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

CT

<b>Office Action Summary</b>	<b>Application No.</b> 10/625,551	<b>Applicant(s)</b> BROWN ET AL	
	<b>Examiner</b> Patrick G. Wamsley	<b>Art Unit</b> 2819	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 January 2005.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 January 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-23 have been considered but are moot in view of the new grounds of rejection.

### ***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Admitted Prior Art, hereafter APA, in view of U.S. Patent 5,999,071 to Ostertag, hereafter Ostertag.

For claim 1, APA discloses a broadband coaxial transmission line (Page 1, ¶0003) fabricated by joining several smaller coaxial transmission lines together at flange joints. A series of insulating supports are interspersed within the line. Claim 9 restates these apparatus limitations in method format while claim 17 uses means plus function format. However, unlike claims 1, 9, and 17, APA does not disclose spacing intervals of approximately one half wavelength.

In contrast, Ostertag teaches the use of effective half wavelength structures to eliminate reflections. Unlike APA's approach (Page 2, ¶0005) of using non-uniform lengths, Ostertag designates a plurality of equal-length sections. Section length may be determined by a formula [columns 3-4] based upon a frequency near a highest frequency for which the transmission line was designed,  $\lambda_H$ .

Art Unit: 2819

At the time of the invention, it would have been obvious to one of ordinary skill in the art to have applied Ostertag's half wavelength teachings to APA's transmission line, setting the spacing between APA'S insulating supports to be approximately half a wavelength. The motivation would have been to reduce VSWR spikes, thereby improving transmission line performance, as suggested by Ostertag

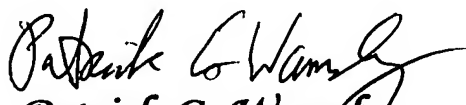
For claims 2-7, 10-15, and 18-22, conventional broadcasters use HF, AM, FM, VHF, UHF, and IBOC signals. In the APA / Ostertag combination, the half-wavelength spacing would have been assigned according to the appropriate signal environment. More specifically, the value of  $\lambda_H$  may be 10% above the highest frequency for a particular environment [column 4, line 54], a parameter outside a channel band of an operating range of the transmission line.

For claims 8 and 16, the length of the APA / Ostertag transmission line would have been an integral multiple of the distance between any of the insulating supports because they would have been assigned, at minimum, according to a 2:1 ratio.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent 6,816,040 to Brown et al corresponds to 10/423,924, listed as "pending" in the 10/17/2003 Information Disclosure Statement.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick G. Wamsley whose telephone number is (571) 272-1814. The official facsimile number is (703) 872-9306. An alternate facsimile number, (571) 273-1814, should only be used for unofficial documents.

  
**Patrick G. Wamsley**

**February 8, 2005**